1638

Attorney's Docket No. 5718-119 (035718/241421)

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re:	Sewalt *et al.*		
Appl. No.:	10/005,429	Group Art Unit:	1638
Filed:	December 3, 2001	Examiner:	Not yet assigned
For:	COMPOSITIONS AND METHODS FOR ALTERING THE DISULFIDE STATUS OF PROTEINS		

March 22, 2002

Commissioner for Patents
Washington, DC 20231

INFORMATION DISCLOSURE STATEMENT
CITATION UNDER 37 C.F.R. § 1.97

Sir:

Attached is a list of documents on form PTO-1449 together with a copy of each identified document. It is requested that the Examiner consider these documents and officially make them of record in accordance with the provisions of 37 C.F.R. § 1.97 and Section 609 of the MPEP. By submitting the listed documents, Applicant in no way makes any admission as to the prior art status of the listed documents, but is instead submitting the listed documents for the sake of full disclosure.

Respectfully submitted,

W. Murray Spruill
Registration No. 32,943

Customer No. 00826
ALSTON & BIRD LLP
Bank of America Plaza
101 South Tryon Street, Suite 4000
Charlotte, NC 28280-4000
Tel Raleigh Office (919) 862-2200
Fax Raleigh Office (919) 862-2260

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner For Patents, Washington, DC 20231, on March 22, 2002.

Polly P. Burton

Polly P. Burton

Substitute for form 1449A PTO (Revised 10-2001)	Complete if Known	
	Application Number	10/005,429
	Filing Date	December 3, 2001
	First Named Inventor	Sewalt
	Group Art Unit	1638
	Examiner Name	Not yet assigned
Sheet 1 of 3	Attorney Docket Number	5718-119 (035718/241421)

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

U. S. PATENT DOCUMENTS

Examiner Initials*	Cite No.	Document Number: Number - Kind Code (if known)	Publication Date MM-DD-YYYY	Name of Patentee of Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages of Relevant Figures Appear
	1	4,849,346	07-18-1989	Wood *et al.*	
	2	4,904,602	02-27-1990	Pigiet *et al.*	
	3	5,646,016	07-08-1997	McCoy *et al.*	
	4	5,792,506	08-11-1998	Buchanan *et al.*	
	5	5,952,034	09-14-1999	Buchanan *et al.*	

FOREIGN PATENT DOCUMENTS

Examiner Initials	Cite No.	Foreign Patent Document: Country Code - Number Kind Code (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T
	6	EP 0 208 539 A2	01-14-1987	Repligen Corporation		
	7	EP 0 672 127 B1	09-20-1995	Buchanan *et al.*		
	8	EP 0 768 382 A2	04-16-1997	Hsp Research Institute, Inc.		
	9	EP 0 853 088 A2	07-15-1998	Oriental Yeast Co., Ltd.		
	10	EP 0 863 154 A1	09-09-1998	The Regents of the University of California		
	11	WO 95/01425 A1	01-12-1995	Novo Nordisk A/S		
	12	WO 96/03505 A1	02-08-1996	Institut National de la Recherche Agronomique		
	13	WO 99/20122 A1	04-29-1999	The Regents of the University of California		
	14	WO 00/14239 A2	03-16-2000	E.I. Du Pont de Nemours and Company		
	15	WO 00/36126 A1	06-22-2000	Novartis AG		
	16	WO 00/58352 A2	10-05-2000	The Regents of the University of California		
	17	WO 00/58453 A2	10-05-2000	The Regents of the University of California		
	18	WO 01/98509 A2	12-27-2001	Syngenta Participations AG		

Examiner Signature		Date Considered	

*Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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Sheet 2 of 3

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OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS

Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.
	19	BESSE, I., *et al.*, "Thiocalsin: A Thioredoxin-Linked, Substrate-Specific Protease Dependent on Calcium," *Proc. Natl. Acad. Sci. USA*, April 1996, pp. 3169-3175, Vol. 93.
	20	BRÉHÉLIN, C., *et al.*, "Characterization of Determinants for the Specificity of *Arabidopsis* Thioredoxins h in Yeast Complementation," *The Journal of Biological Chemistry*, October 2000, pp. 31564-31572, Vol. 275(41), The American Society for Biochemistry and Molecular Biology, Inc., USA.
	21	BRUGIDOU, C., *et al.*, "The *Nicotiana tabacum* Genome Encodes Two Cytophasmic Thioredoxin Genes Which Are Differently Expressed," *Mol. Gen. Genet.*, 1993, pp. 285-293, Vol. 238, Springer-Verlag.
	22	BUCHANAN, B., *et al.*, "Thioredoxin-Linked Mitigation of Allergic Responses to Wheat," *Proc. Natl. Acad. Sci. USA*, May 1997, pp. 5372-5377, Vol. 94, The National Academy of Sciences, USA.
	23	FAHRENDORF, T., *et al.*, "Stress Responses in Alfalfa (*Medicago sativa* L.) XIX. Transcriptional Activation of Oxidative Pentose Phosphate Pathway Genes at the Onset of the Isoflavonoid Phytoalexin Response," *Plant Molecular Biology*, 1995, pp. 885-900, Vol. 28, Kluwer Academic Publishers, Belgium.
	24	GAUTIER, M., *et al.*, "Characterization of Wheat Thioredoxin *h* cDNA and Production of an Active *Triticum aestivum* Protein in *Escherichia coli*," *Eur. J. Biochem.*, 1998, pp. 314-324, Vol. 252, FEBS.
	25	GRAEVE, K., *et al.*, "Purification, Characterization, and cDNA Sequence of Glucose-6-Phosphate Dehydrogenase from Potato (*Solanum tuberosum* L.)," *The Plant Journal*, 1994, pp. 353-361, Vol. 5(3), BIOS Scientific Publishers Ltd., Blackwell Scientific Publications Ltd., and the Society for Experimental Biology, USA.
	26	ISHIWATARI, Y., *et al.*, "Thioredoxin h is One of the Major Proteins in Rice Phloem Sap," *Planta*, 1995, pp. 456-463, Vol. 195, Springer-Verlag.
	27	JACQUOT, J., *et al.*, "Analysis and Manipulation of Target Enzymes for Thioredoxin Control," *Methods in Enzymology*, 1995, pp. 240-253, Vol. 252, Academic Press, Inc.
	28	JACQUOT, J., *et al.*, "*Arabidopsis thaliana* NAPHP Thioredoxin Reductase: cDNA Characterization and Expression of the Recombinant Protein in *Escherichia coli*," *J. Mol. Biol.*, 1994, pp. 1357-1363, Vol. 235, Academic Press Limited.
	29	JIAO, J., *et al.*, "Effect of Thioredoxin-Linked Reduction on the Activity and Stability of the Kunitz and Bowman-Birk Soybean Trypsin Inhibitor Proteins," *J. Agric. Food Chem.*, 1992, pp. 2333-2336, Vol. 40, American Chemical Society, USA.
	30	JIAO, J., *et al.*, "Thioredoxin-Linked Changes in Regulatory Properties of Barley Alpha-Amylase/Subtilisin Inhibitor Protein," *Plant Physiol. Biochem.*, 1993, pp. 799-804, Vol. 31(6), Gautier-Villars.
	31	KOBREHEL, K., *et al.*, "Role of the NADP/Thioredoxin System in the Reduction of Alpha-Amylase and Trypsin Inhibitor Proteins," *The Journal of Biological Chemistry*, August 1991, pp. 16135-16140, Vol. 266(24), The American Society for Biochemistry and Molecular Biology, Inc., USA.
	32	KOBREHEL, K., *et al.*, "Specific Reduction of Wheat Storage Proteins by Thioredoxin *h*," *Plant Physiol.*, 1992, pp. 919-924, Vol. 99.

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OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS

33	LOZANO, R., *et al.*, "New Evidence for a Role for Thioredoxin *h* in Germination and Seedling Development," *Planta*, 1996, pp. 100-106, Vol. 200, Springer-Verlag GmbH & Co. KG, Berlin.
34	MEYER, Y., *et al.*, "Plant Thioredoxins and Glutaredoxins: Identity and Putative Roles," *Trends in Plant Science*, October 1999, pp. 388-394, Vol. 4(10), Elsevier Applied Science, United Kingdom.
35	MOUAHEB, N., *et al.*, "*In Vivo* Functional Discrimination Between Plant Thioredoxins by Heterologous Expression in the Yeast *Saccharomyces cerevisiae*," *Proc. Natl. Acad. Sci. USA*, March 1998, pp. 3312-3317, Vol. 95, The National Academy of Sciences, USA.
36	RIVERA-MADRID, R., *et al.*, "Evidence for Five Divergent Thioredoxin *h* Sequences in *Arabidopsis thaliana*," *Proc. Natl. Acad. Sci. USA*, June 1995, pp. 5620-5624, Vol. 92.
37	RIVERA-MADRID, R., *et al.*, "Nucleotide Sequence of a cDNA Clone Encoding an *Arabidopsis thaliana* Thioredoxin h," *Plant Physiol.*, 1993, pp. 327-328, Vol. 102.
38	VERDOUCQ, L., *et al.*, "*In Vivo* Characterization of a Thioredoxin h Target Protein Defines a New Peroxiredoxin Family," *The Journal of Biological Chemistry*, July 1999, pp. 19714-19722, Vol. 274, The American Society for Biochemistry and Molecular Biology, Inc., USA.
39	WONG, J., *et al.*, "Thioredoxin and Bread Wheat," *Cereal Chemistry*, 1993, pp. 113-114, Vol. 70(1), American Association of Cereal Chemists, Inc., USA.
40	ZHANG, P., *et al.*, "Thioredoxin Peroxidase Is a Novel Inhibitor of Apoptosis with a Mechanism Distinct from That of Bc1-2," *The Journal of Biological Chemistry*, December 1997, pp. 30615-30618, Vol. 272(49), USA.
41	GenBank Report for Accession No. D21836, Direct Submission on October 28, 1993.
42	GenBank Report for Accession No. D26547, Direct Submission on January 18, 1993.
43	GenBank Report for Accession No. D49132, Direct Submission on March 9, 1995
44	GenBank Report for Accession No. S44026, Direct Submission on November 6, 1998.
45	GenBank Report for Accession No. AA979723, Direct Submission on May 26, 1998.
46	GenBank Report for Accession No. AC002329 AE002093, Direct Submission on March 9, 2000.
47	GenBank Report for Accession No. AF051206, Direct Submission on February 27, 1998.
48	GenBank Report for Accession No. AI670386, Direct Submission on May 14, 1999
49	GenBank Report for Accession No. AI738120, Direct Submission on June 16, 1999.
50	GenBank Report for Accession No. AI834553, Direct Submission on July 14, 1999.
51	GenBank Report for Accession No. AJ001903, Direct Submission on October 1, 1997.
52	GenBank Report for Accession No. AW172111, Direct Submission on November 15, 1999.
53	GenBank Report for Accession No. AW313252, Direct Submission on January 24, 2000.
54	GenBank Report for Accession No. AW562878, Direct Submission on March 10, 2000.
55	GenBank Report for Accession No. AW679524, Direct Submission on April 14, 2000.
56	GenBank Report for Accession No. AW681036, Direct Submission on April 14, 2000.

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